Clinical Information System Planning — Anticipating and Addressing the Challenges

Thomas W. Abendroth, MD, Center for Information Technology
M. S. Hershey Medical Center, Pennsylvania State University
Hershey, Pennsylvania

INTRODUCTION

Hershey Medical Center (HMC) comprises Penn State University's medical school, 500-bed tertiary care hospital, and outpatient facilities. During the next three years HMC plans to establish an integrated clinical information system to support patient care, education, and research activities. The gradual evolution toward this system has been instructive.

CHALLENGES AND APPROACHES

HMC encountered several challenges during the recently completed initiation phase of this project. Six of these challenges, and possible approaches for addressing them, may be of interest to other institutions considering similar endeavors.

1. The Decision Makers Are Not the Users
Challenge: Successful planning requires consensus-building within two distinct groups: the care providers (users) who determine the system's ultimate success or failure and the decision makers who determine project funding. Communication and shared vision between these two groups may be suboptimal.

Approach: Identify a sponsor in *each* constituency. Neither of these individuals should have a strong vested interest in the system. Neither should report to the information systems department, which should provide technical leadership, not project ownership. Involve each group: user participation from project planning through implementation, regular status reports to and direction from the decision makers.

2. Expectations Must Be Managed
Challenge: Existing commercial clinical information systems directly address only one-half of the pressing information needs identified by HMC clinicians.

Approach: Define expectations in measurable terms. Evaluate systems with respect to these expectations. Educate the user community about what the system will and will not provide, *before* the project begins.

3. Supporting Business Case is Difficult
Challenge: Limited solid data exist in the literature to cost justify clinical information systems. Published reports typically cite reductions in average costs or charges. Due to the complexity of healthcare reimbursement and the difficulty in determining the actual incremental (variable) costs for the services reduced, bottom line savings are difficult to quantify.

Approach: Recognize that cost savings may *not* transfer directly to the bottom line, depending upon the method of reimbursement. Use conservative assumptions when estimating benefits and state that uncertainty exists. Let others extrapolate from these conservative estimates. Consider the strategic (competitive advantage) importance of the system.

4. Incremental Growth May Limit Benefits
Challenge: Gradual evolution to the ultimate goal may limit project risk. It may also limit the potential benefits by: (a) reducing the opportunity for dramatic operational redesign (e.g., physician order entry), (b) dampening user enthusiasm and commitment, and (c) obscuring the long term project goals.

Approach: If incremental change is necessary, plan it carefully. (a) Follow an evolution that anticipates operational changes (e.g., initially omit order entry, rather than require nurse order entry, if physician order entry is a long term goal). (b) Identify and promote the benefits achieved with each step in the evolution. (c) Frequently communicate the long range plan.

5. Credibility Must Be Established
Challenge: The healthcare industry has developed a healthy skepticism of information systems. The project plan may be questioned because of previous disappointing experiences with other computer systems or with the information systems department.

Approach: Use respected outside sources (consultants, colleagues at other institutions) to help establish the project plan and the resource projections. After completing the plan, invite different independent review of the planning process and recommendation.

6. Behavioral Issues Loom Large
Challenge: A new system will *require* users to alter some behaviors and provide the *opportunity* to modify others. Established responsibilities and processes may change, which may be threatening.

Approach: Devote significant resources to facilitate these changes. Seek assistance from others who have managed this complicated process at other sites.

0195-4210/92/$5.00